

1 (2) No specification amendments are required.

2  
3 (3) REMARKS

4  
5 Not Applicable

6  
7 (4) AMENDMENTS: VERSIONS WITH MARKINGS TO SHOW CHANGES MADE

8  
9 27. (FIRST AMENDED) The [device] appliance as set forth in claim 26 comprising:

10 adjacent said imaging stratum, a background stratum in black, white or a  
11 predetermined color, wherein said addressing device switches said colorant molecules  
12 between a transparent orientation and a color-exhibiting orientation such that said  
13 background stratum provides high contrast as viewed through the colorant molecules in  
14 the transparent orientation with respect to the colorant molecules in the color-exhibiting  
15 orientation.

16  
17 28. (FIRST AMENDED) The [device] appliance as set forth in claim 26 comprising:

18 said imaging stratum further comprising colorant molecules having a first state  
19 wherein a picture element formed of said molecules in said first state are displayed in a  
20 first color, including black or white, and said colorant molecules having a second state  
21 wherein a picture element formed of said molecules in said second state are displayed in  
22 a second color, including white or black, presenting a visually high contrast to molecules  
23 in said first state.

24  
25 29. (FIRST AMENDED) The [device] appliance as set forth in claim 26 wherein said

26 appliance is selected from a group including computers, computing machines of both  
27 hard-wired, fixed location and portable types, calculators, electronic books, monitoring  
28 instruments, musical instruments or music stands, networked workstations, personal

1 digital assistants, telephones, televisions, test instruments, video games, or wired or  
2 wireless communication devices.

3  
4 30. (FIRST AMENDED) The [device] appliance as set forth in claim 26 comprising:  
5 said display is a fixed geometry position screen.

6  
7 31. (FIRST AMENDED) The [device] appliance as set forth in claim 26 comprising:  
8 said display is a retractable geometry positionable screen.

9  
10 32. (FIRST AMENDED) The [device] appliance as set forth in claim 26 comprising:  
11 said colorant molecules are arranged to form discrete, addressable picture  
12 elements of said display stratum.

13  
14 33. (FIRST AMENDED) The [device] appliance as set forth in claim 26 comprising:  
15 said colorant molecules are bistable, providing a non-volatile component.

16  
17 34. (FIRST AMENDED) The [device] appliance as set forth in claim 26 comprising:  
18 said colorant molecules have a low activation barrier between different said  
19 states providing a fast volatile switching therebetween.

20  
21 35. (FIRST AMENDED) The [device] appliance as set forth in claim 26 comprising:  
22 said colorant molecules have more than two said states, switchable such that  
23 optical properties of said stratum can be tuned either continuously by application of a  
24 decreasing or increasing electric field to form a volatile switch or color of selected display  
25 regions are changed abruptly by application of voltage pulses to switch at least one  
26 molecular activation barrier.

1 37. (FIRST AMENDED) The [device] display as set forth in claim 36 comprising:  
2 adjacent said imaging stratum, a background stratum in black, white or a  
3 predetermined color, wherein said addressing device switches said colorant molecules  
4 between a transparent orientation and a color-exhibiting orientation such that said  
5 background stratum provides high contrast as viewed through the imaging stratum  
6 regions where the colorant molecules in the transparent orientation with respect to the  
7 colorant molecules in the color-exhibiting orientation.

8  
9 38. (FIRST AMENDED) The [device] display as set forth in claim 36 comprising:  
10 said imaging stratum further comprising colorant molecules having a first state  
11 wherein a picture element formed of said molecules in said first state are displayed in a  
12 first color, including black or white, and said colorant molecules having a second state  
13 wherein a picture element formed of said molecules in said second state are displayed in  
14 a second color, including white or black, presenting a visually high contrast to molecules  
15 in said first state.

16  
17 39. (FIRST AMENDED) The [device] display as set forth in claim 36  
18 comprising:  
19 said display is a fixed geometry position screen.

20  
21 40. (FIRST AMENDED) The [device] display as set forth in claim 36 comprising:  
22 said display is a retractable geometry positionable screen.

23  
24 59. (FIRST AMENDED) The [display] appliance as set forth in claim 58 comprising:  
25 said colorant molecules exhibit an electric field induced band gap change.

26 //

1 ~~61.~~<sup>60</sup> (FIRST AMENDED) The [display] appliance as set forth in claim ~~60~~<sup>59</sup>  
2 comprising:  
3 said electric field induced band gap change occurs via a mechanism  
4 selected from a group including (1) molecular conformation change or an  
5 isomerization, (2) change of extended conjugation via chemical bonding change  
6 to change the band gap, and (3) molecular folding or stretching.

7  
8 Please add the following claims. Claim number "48" was inadvertently not used  
9 in the original document, therefore it is added here.

10 ~~48.~~<sup>43</sup> (NEW) A method for displaying digital data, the method comprising:  
11  
12 selectively producing localized electric fields at picture elements of a viewing  
13 screen; and

14 using said fields to induce band gap changes in molecules forming said picture  
15 elements thereby changing an optical property thereof.

16  
17 64. (NEW) An electric field addressable viewing screen associated with means for  
18 selectively generating localized electrical fields, the screen comprising:  
19 a substrate;  
20 at least one layer of a bi-modal molecular colorant associated with said substrate  
21 such that colorant molecules are addressable as picture elements of the viewing screen,  
22 electrically switching the colorant molecules between at least two visually distinct states  
23 selectively.

24  
25 65. (NEW) The invention as set forth in claim 64 said colorant further comprising:  
26 a bi-modal molecular system for creating alphanumeric characters and graphic  
27 images.

28  
29 66. (NEW) The invention as set forth in claim 65 wherein each of said molecules  
30 exhibit an electric field induced band gap change.

1 67. (NEW) The invention as set forth in claim 66 wherein said electric field induced  
2 band gap change occurs via a mechanism selected from a group including (1) molecular  
3 conformation change or an isomerization, (2) change of extended conjugation via  
4 chemical bonding change to change the band gap, and (3) molecular folding or  
5 stretching.

6  
7 68. (NEW) A method for generating a visual display from a digital data set  
8 representative of text, images, or both, the method comprising:  
9 converting the digital data set to electrical signals for generating individual picture  
10 elements representative thereof; and  
11 sending said signals to local electric field generating devices associated with a  
12 viewing surface, the screen having a molecular colorant stratum such that said signals  
13 induce local electrical fields in said stratum causing said molecules thereof to switch  
14 between at least two optically distinguishable states at said individual picture elements  
15 such that said digital data set is visually displayed thereby.

16  
17 69. (NEW) The method as set forth in claim 68 wherein each of said molecules  
18 exhibit an electric field induced band gap change.

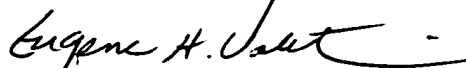
19  
20 70. (NEW) The method as set forth in claim 69 wherein said electric field induced  
21 band gap change occurs via a mechanism selected from a group including (1) molecular  
22 conformation change or an isomerization, (2) change of extended conjugation via  
23 chemical bonding change to change the band gap, and (3) molecular folding or  
24 stretching.

25 //

1 Questions or suggestions that will advance the case to allowance may be directed to  
2 the undersigned by teleconference at the Examiner's convenience.

3  
4 Date: SEPT. 11, 2002

Respectfully submitted,



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<sup>1</sup> Do not change formal correspondence address; unless a PTO/SB/122 is filed herewith, formal correspondence should continue to be sent to Hewlett-Packard per the Declaration.